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Dated: February 23, 2007

Signature: *Rosemarie Puljit-Salmeron*

(Rosemarie Puljit-Salmeron)

Docket No.: 443452000103  
(PATENT)

THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:

Giovanni COGLITORE et al.

Confirmation No.: 9230

Application No.: 10/678,006

Art Unit: 2835

Filed: October 1, 2003

Examiner: L Lea-Edmonds

For: HIGH DENSITY COMPUTER EQUIPMENT  
STORAGE SYSTEM

APPEAL BRIEF

Mail Stop Appeal Brief-Patents  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

This is an Appeal from the final rejection mailed January 26, 2006, rejecting claims 1-51 under 35 U.S.C. § 103(a). A Notice of Appeal was filed July 25, 2006. This brief is filed within seven months of the filing of the Notice of Appeal, and is in furtherance of said Notice of Appeal. In accordance with MPEP § 1205.01, the two-month period set by 37 C.F.R. § 41.37(a) for filing the Appeal Brief after the Notice of Appeal may be extended by up to five months. Appellants submit herewith a petition and fee for a five-month extension of time under 37 C.F.R. § 1.136(a), thereby extending the deadline for filing the Appeal Brief to February 25, 2007. Accordingly, this Appeal Brief is timely filed.

The fees required under 37 C.F.R. § 41.20(b)(2) are dealt with in the accompanying Fee Transmittal.

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This brief contains items under the following headings as required by 37 C.F.R. § 41.37 and M.P.E.P. § 1205:

I.	Real Party in Interest
II	Related Appeals and Interferences
III.	Status of Claims
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VIII.	Claims Appendix
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Appendix A	Claims

#### I. REAL PARTY IN INTEREST

The real party in interest for this appeal is:

Rackable Systems, Inc., 1933 Milmont Drive, Milpitas, California 95035.

#### II. RELATED APPEALS, INTERFERENCES, AND JUDICIAL PROCEEDINGS

This patent application is a continuation of an application that has resulted in the issuance of U.S. Patents 6,496,366 and 6,850,408. These patents are currently being litigated in the litigation identified below.

Rackable Systems, Inc. v. Super Micro Computer, Inc. (US DC NDCA), Case No. 3:05-cv-03561-PJH.

#### III. STATUS OF CLAIMS

##### A. Total Number of Claims in Application

There are 51 claims pending in the application.

##### B. Current Status of Claims vis-à-vis the previous response

1. No claims are presently canceled.
2. No claims are withdrawn from consideration but not canceled.
3. Claims pending: 1-51.
4. No claims are allowed.
5. Claims rejected: 1-51.
6. No claims are objected to.

C. Claims on Appeal

Claims 1-51 are on appeal.

IV. STATUS OF AMENDMENTS

No Amendments remain outstanding.

V. SUMMARY OF CLAIMED SUBJECT MATTER

The following cites refer to the published application (Publication No. 2004/0070936).

Claim 1 is an independent claim to a set of computers 96 as illustrated separately in the exploded view of FIG. 1 and in context in FIGS. 4-6. The set of computers 96 comprises at least one heat-generating component, for example, a power supply 48 (FIG. 1). Claim 1 also includes a rack 98, such as the rack shown in FIG. 4 (§§ 36-44), which is configured for the at least two computers 96 to be placed in a back-to-back configuration (e.g., FIGS. 3A, 3B, 5, and 6). Other aspects of each computer are illustrated in FIG. 1, which illustrates an example chassis 2 that may be used with other components to form a computer. Other components can include a main board 14 (§ 31), a hard drive 56 (§ 38), vents 64 and 66 (§ 38), and fans 76 (§ 38).

The rack of claim 1 is configured so that air is permitted to flow through each computer and through, over, or adjacent to the at least one heat-generating component. Furthermore, the rack 98 and computers 96 will cooperate to direct the airflow through the computers 96, (1) up to exit the rack 98 through an upper section of the rack 98 (FIGS. 5, 6), (2) down to exit the rack 98 through a lower section of the rack 98 (FIGS. 5, 6), or (3) both (FIGS. 5, 6) (§§ 66-71).

Claim 9 is an independent claim to a set of computers 96. The set of computers 96 comprises at least two computers 96 (e.g., the exploded view of FIG. 1). Each computer comprises at least one heat-generating component, such as a power supply 48 (FIG. 1). Claim 9 also includes a rack 98 as in FIG. 4 (§§ 36-44), which is configured for the at least two computers 96 to be placed in a back-to-back configuration (e.g., FIGS. 3A, 3B, 5, and 6). As mentioned above, other aspects of each computer 96 are illustrated in FIG. 1, which illustrates an example chassis 2 that may be used with other components to form such a computer 96. Other such components can include a main board 14 (§ 31), a hard drive 56 (§ 38), vents 64 and 66 (§ 38), and fans 76 (§ 38).

The rack of claim 9 is configured so that air is permitted to flow through each computer, and so that airflow goes through, over, or adjacent to the at least one heat-generating component. The rack 98 and computers 96 will cooperate to direct the airflow through the computers 96 to (1) flow up to enter the rack 98 through a lower section of the rack 98 (FIG. 5), (2) flow down to enter the rack 98 through an upper section of the rack 98 (FIG. 5), or (3) both, and exit through the computers 96 (FIG. 5) (§§ 66-71).

Claim 17 is an independent claim to a set of computers 96. The set of computers 96 comprises at least two computers 96 (e.g., the exploded view of FIG. 1). Each computer comprises at least one heat-generating component, e.g., power supply 48 (FIG. 1). Claim 17 also includes a rack 98 as in FIG. 4 (§§ 36-44). The computers are positioned in a back-to-back configuration (e.g., FIGS. 3A, 3B, 5, and 6). As mentioned above, other aspects of each computer are illustrated in FIG. 1, including a main board 14 (§ 31), a hard drive 56 (§ 38), vents 64 and 66 (§ 38), and fans 76 (§ 38).

The computers in the rack 98 are configured so that air may pass through each of the computers 96 so that airflow goes through, over, or adjacent to the at least one heat-generating component, and the rack 98 and computers 96 will cooperate to direct the airflow through the computers 96 (1) up to exit the rack 98 through an upper section of the rack 98 (FIG. 6) (2) down to exit the rack 98 through a lower section of the rack 98 (FIG. 6), or (3) both (FIG. 6) (§§ 66-71).

Claim 25 is an independent claim to a set of computers 96. The set of computers 96 comprises at least two computers 96 (e.g., the exploded view of FIG. 1). Each computer comprises at least one heat-generating component, such as a power supply 48 (FIG. 1). Claim 25 also includes a rack 98 as in FIG. 4 (§§ 36-44), which is configured for the at least two computers 96 to be placed in a back-to-back configuration (e.g., FIGS. 3A, 3B, 5, and 6) that permits air to flow through each computer 96, and through, over, or adjacent to the at least one heat-generating component. The rack 98 and computer 96 cooperate to direct air (1) up to enter the rack 98 through a lower section of the rack 98 (FIG. 5), (2) down to enter the rack 98 through an upper section of the rack 98 (FIG. 5), or (3) both, and exits through the computers 96 (FIG. 5) (§§ 66-71).

Other aspects of each computer are illustrated in FIG. 1, which illustrates an example chassis 2 that may be used with other components to form such a computer. Other such components can include a main board 14 (§ 31), a hard drive 56 (§ 38), vents 64 and 66 (§ 38), and fans 76 (§ 38).

Claim 51 is an independent claim to a set of computers 96. The set of computers 96 comprises at least two computers 96 (e.g., the exploded view of FIG. 1). Each computer comprises at least one heat-generating component, such as a power supply 48 (FIG. 1). Claim 51 also includes a rack 98 as in FIG. 4 (§§ 36-44), which is configured for the at least two computers 96 to be placed in a back-to-back configuration (e.g., FIGS. 3A, 3B, 5, and 6). Airflow goes through, over, or adjacent to the at least one heat-generating component, and the airflow flows through the back-to-back computers 96 and the rack 98 (§§ 68-72).

Other aspects of each computer are illustrated in FIG. 1, which illustrates an example chassis 2 that may be used with other components to form such a computer. Other such components can include a main board 14 (§ 31), a hard drive 56 (§ 38), vents 64 and 66 (§ 38), and fans 76 (§ 38).

Claims 2, 10, 18, and 26 recite that the computer(s) 96 further comprises a chassis 2 comprising a front panel 18. (e.g., §§ 34, 36, and 53, and FIG. 1).

Claims 3, 11, 19, and 27 recite that the computers 96 can each further comprise a chassis 2 with at least one main board 14 (e.g., § 36 and FIG. 1).

Claims 4, 5, 12, 13, 20, 21, 28, 29, and 34 recite that the computers 96 and the rack 98 cooperate to define a space 106 between at least two back-to-back computers 96 (e.g., FIGS. 5 and 6, §§ 48, 61, and 64).

Claims 6-8, 14-16, 22-24, and 30-32 deal with aspects of vents in the computers 96 (e.g., vents 64 and 66 in FIG. 1, § 38, vents 80 and 84 in FIGS. 2C and 2D, and § 54), such as vents at a back section (claims 7, 15, 23, 31: FIG. 1, element 68, § 39; and FIGS. 2C and 2D, element 80, § 47), vents at a front section (claims 8 and 16, 24, 32: FIG. 1, elements 60, 62, and 70; and FIGS. 2C and 2D, element 84, § 47).

Claim 33 is an independent claim to a method of cooling one or more heat-generating components (e.g., power supply 48) in two or more computers 96, where such computers 96 are mounted back-to-back in a rack 98. The method comprises directing air into and through each of the computers 96 to cool at least one heat-generating component 48 (§ 68, FIG. 1). The method also comprises directing the air (1) up to exit the rack 98 through an upper section of the rack 98, (2) down to exit the rack 98 through a lower section of the rack 98, or (3) both (as in FIG. 5) (See also, §§ 64, 65-72).

Claim 42 is an independent method claim, which is for cooling heat-generating components in two or more computers 96 mounted back-to-back in a rack 98. The method comprises directing

air to cool the one or more heat-generating components (1) up to enter the rack 98 through a lower section of the rack 98, (2) down to enter the rack 98 through an upper section of the rack 98, or (3) both. (e.g., ¶¶ 64, 65-72). The method also includes the step of directing air through the computer 96 such that air flows through, over, or adjacent to the at least one heat-generating component. The air can be drawn from the ambient environment into and through the computers 96 and exhausted in the rack 98. The methods can also comprise providing forced air or cooled/conditioned air to the computers 96 (e.g., ¶¶ 64, 65-72, see also racks and configurations of FIGS. 4-6).

## VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

A. Whether claims 1-6, 8-14, 16-22, 24-34, 38-43, and 46-51 are patentable over U.S. Patent No. 4,691,274 (Matouk) in view of U.S. Patent No. 5,971,506 (Dubin).

B. Whether claims 7, 15, 23, 31, 35, 36, 44, and 45 are patentable over U.S. Patent No. 4,691,274 (Matouk) in view of U.S. Patent No. 5,971,506 (Dubin), and further in view of U.S. Patent No. 6,011,689 (Wrycraft).

## VII. ARGUMENT

**A. Whether claims 1-6, 8-14, 16-22, 24-34, 38-43, and 46-51 are patentable over U.S. Patent No. 4,691,274 (Matouk) in view of U.S. Patent No. 5,971,506 (Dubin).**

Each of claims 1, 9, 17, 25, and 51 is an independent claim to a set of computers, and was rejected as allegedly being obvious over Matouk in view of Dubin.

Applicants respectfully disagree. There is no motivation to combine the modular power supply framework of Matouk with the rack-mountable computers described in Dubin. Furthermore, even if the rack-mountable computers of Dubin were combine with Matouk's modular power supply framework, the combination would require substantial untaught modification, and would still not include all of the limitations of the Applicant's pending claims. This is discussed in detail below.

**1. Neither Matouk nor Dubin discloses or suggests providing computers in a back-to-back configuration in the modular power supply “framework” of Matouk.**

Claim 1 is generally representative of claims 9, 17, 25, and 51. Claim 1 recites in part a “rack configured for the at least two computers to be placed in a back-to-back configuration.” Thus, claim 1 must include a rack with at least two computers in a back-to-back configuration. Similar limitations are recited in independent claims 9, 17, 25, and 51.

Applicants respectfully submit that the combination of references proposed in the Office Action of January 26, 2006 (hereafter, the “Rejection”) does not disclose or suggest a rack configured for the at least two computers to be placed in a back-to-back configuration, as recited by the Applicant’s claims. The Rejection alleges that because Matouk discloses power supply modules that can be placed back-to-back in a “framework,” while Dubin discloses a rack mountable computer, one of ordinary skill would have been motivated to dispose the rack mountable computer in a configuration like that of the power supply modules of Matouk. Applicants respectfully traverse.

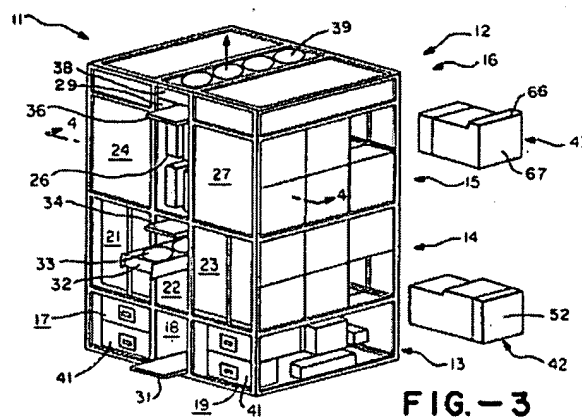
**a. Neither Matouk nor Dubin teach or suggest placing a computer in a back-to-back modular power supply framework.**

Matouk relates to a modular electronic power supply, not a computer rack. Matouk discloses a customized “modular electronic power supply” with a custom “framework” adapted to receive custom modules 41-43 (see Matouk, Abstract, and 1:29-2:10). There is no teaching or suggestion that the modules 41-43 of Matouk could or should be computers. There is no indication as to why a computer would be installed in place of the modules 41-43, and in fact, if computers were so substituted, then there is a question as to whether the invention of Matouk would function, given that the framework of Matouk is designed to accept specific modules having specific functions in specific locations.

For example, compartments 24 and 27 (shown below in FIG. 3 of Matouk) are for electronic motor generator modules or special purpose power modules, while side compartments 17 and 19 are



for input/output modules, and compartments 21 and 23 are for ride through capacitor modules (see 3:45-47, 3:65-66, 4:9-12). As such, Matouk specifically discloses specific functional modules disposed in specific locations in the framework, which would further suggest to one of ordinary skill that the framework of Matouk is for the customized modular power supply of Matouk and not as a general purpose computer rack, as appears to be the viewpoint of the Examiner.



Unlike rack-mountable computers, the power modules described in Matouk do not appear to have connectors or other “wires” whose disposition or configuration is of concern when mounting the computers in a back-to-back configuration. By contrast, a rack mountable computer can have quite a number of such connectors. Therefore, the electronic modules of Matouk would not have suggested substitutability with computers to one of ordinary skill.

Specifically addressing the Matouk cite of the rejection, the Rejection suggests that Matouk discloses that its framework can also hold computers at (3:49-57). Applicants submit that Matouk does not support such a suggestion. The section of Matouk relied on by the Examiner actually discloses:

“The details of the construction of this input/output module 41 will not be described in that they provide relatively standard input and output connections for use with a computer (not shown). For example, if the entire electronic power assembly 11 is mounted on a computer floor, the wiring for

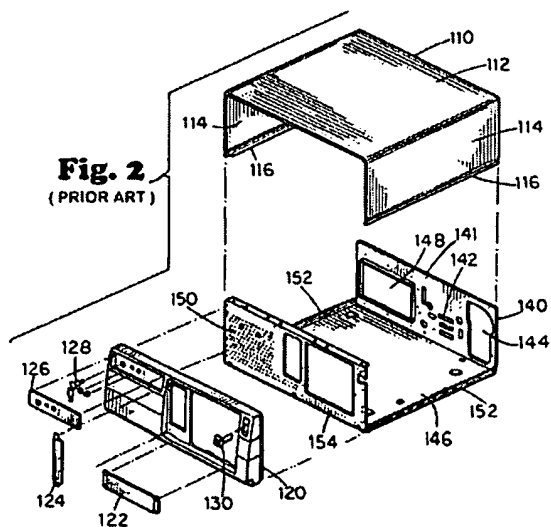
the electronic power supply 11 can be brought up through the computer floor and into the input/output modules 41." (Matouk, 3:49-57, emphasis added).

In other words, Matouk envisions that its invention -- a modular power supply (11) -- can be *connected* to a computer via module 41 to power, for example, the computer. However, Matouk does not disclose or otherwise suggest providing computers *in* the modular power supply "framework" providing the modularity of the power supply itself.

Even if Matouk disclosed or suggest providing a computer in its framework, the resulting combination of computers in Matouk's framework would not function without extensive modification. In particular, the computes (e.g., such as the computers shown in Dubin) would need further adaptation to function in a back-to-back configuration such as that shown in Matouk's framework.

**b. One of ordinary skill would not have been motivated to dispose rack mountable computers in Matouk's "framework."**

At the time of the invention, computers were known to have their connectors, such as power and network connectors, disposed at a rear of the computer's chassis. For example, Dubin, FIG. 2, at right, illustrates a chassis having such connectors disposed at the rear (i.e., at the back) of the chassis. By further example, Dubin discloses that "switches and lights for controlling and monitoring computer operation" (2:41-43) at the front of chassis, while the rear portion includes "back plate 141 containing openings 142 for connecting cords ... and an opening 148 for access to vertically mounted circuit boards." (2:52-55).



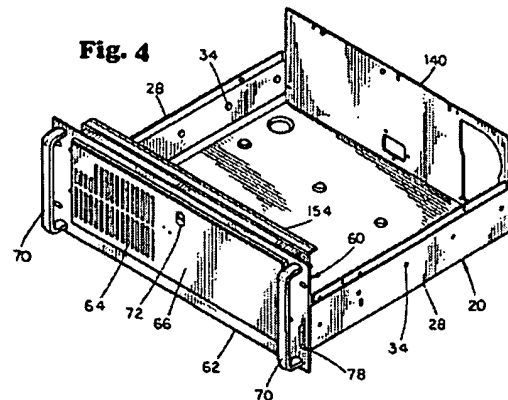
Dubin describes a carrier tray that can be used with a standard (e.g., prior art) desktop computer to convert it into a rack mountable computer. Dubin does not describe a back-to-back arrangement of computers, nor does Dubin suggest such an arrangement. Indeed, a back-to-back arrangement of prior art and rack-mountable computers such as those described by Dubin would likely have blocked access to important computer components. Components such as Input/Output connectors including one or more data transmission ports, which typically project from the back of the computer (see Dubin, 2:52-57), may interfere with each other, and at the very least would project into the space between the two computers. An impairment of access to these connectors would not have been acceptable to one of ordinary skill, because not being able to readily access these connectors would make arranging, rearranging, maintaining, and debugging of such computers and networks of those computers in a rack configuration more difficult. Therefore, without a teaching or suggestion in the art concerning how to overcome this access problem, one of ordinary skill would not have considered that such a computer chassis was suitable for back-to-back disposition in the Matouk “framework.”

Because one of ordinary skill would not likely have considered a computer chassis such as the modified desktop computer chassis taught by Dubin (with connectors at a rear of the chassis) suitable for back-to-back disposition, one of ordinary skill would not have considered it desirable to dispose a set of computers having all of such connectors at a back of their chassis in a back-to-back configuration in a rack.

However, the Examiner has alleged that Dubin contains a teaching or a suggestion to further modify the Dubin chassis, such that it includes connectors at the front. Applicants respectfully traverse.

**c. Dubin does not disclose or suggest relocating these connectors to a front of a computer chassis, such that one of ordinary skill would have been motivated to use those chassis in Matouk's "framework."**

The apparent basis for the allegation is that there is a difference between the figure illustrating the prior art chassis of Dubin (*i.e.*, FIG. 2) with a chassis illustrated in other figures of Dubin (*i.e.*, FIGS. 3 and 4). Applicants respectfully submit that these differences may be an oversight in the drafting of the Dubin specification, but do not approach a teaching or a suggestion to provide connectors other than at a rear of the chassis.



The specification of Dubin shows this to be the case. First, Dubin introduces a prior art computer having a chassis 140 (Dubin 2:45-47). Throughout the remainder of the specification, including where Dubin describes "the heart of the present invention," which is "carrier tray 20," Dubin refers to the same chassis 140. Dubin is describing a tray into which the chassis of a prior art desktop computer is inserted, so that it can be mounted in a standard-sized equipment rack (3:21-27). In fact, Dubin specifically notes that the invention "should not require any modification ... to the component mounting chassis of the desktop computer" (Dubin, 1:55-60). Dubin does not provide any reason or desirability to moving these connectors. Furthermore, Dubin does not disclose providing for such access at a front portion of chassis 140. Dubin instead relies upon the prior art for enabling its chassis, as Dubin discloses that the invention uses a desktop chassis without modification. (1:55-60).

Even assuming, *arguendo*, that the chassis 140 of FIGS. 3 and 4 of Dubin is different from the chassis 140 of FIG. 2, the most that can be said is Dubin does not address a location of such connectors. However, the failure to address such a location does not disclose or suggest disclosure of locating such connectors in a location other than the closest prior art identified by the patentee, himself (*i.e.*, the chassis 140 of FIG. 2).

Therefore, Dubin does not disclose or suggest a computer with a chassis suitable for back-to-back disposition in the “framework” of Matouk.

## **2. The Proffered Motivation to Combine and Modify Matouk and Dubin is Insufficient**

The showing of a suggestion, teaching, or motivation to combine the prior art references is an “essential evidentiary component of an obviousness holding.” *C.R. Bard, Inc. v. M3 Sys. Inc.*, 157 F.3d 1340, 1352 (Fed. Cir. 1998). This showing must be clear and particular – meaning that broad conclusory statements about the teaching of multiple references, standing alone, are not “evidence.” *In re Dembiczak*, 175 F.3d 994, 1000 (Fed. Cir. 1999). The initial burden is on the Examiner to establish not only that there is some suggestion of the desirability of doing what the inventor has done, but also that the combination itself is suggested, and further that the skilled artisan would have a reasonable expectation of success that the combination would result in the claimed invention. The Examiner “cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention.” *In re Fine*, 837 F.2d 1071, 1075 (Fed. Cir. 1988).

A portion of the reasoning in the Rejection as to why one of ordinary skill would have derived a suggestion to combine (and apparently, to modify) Matouk and Dubin to render the claims obvious is that the Rejection alleges Matouk discloses “electronic components being used with a computer” at (Matouk at 3:49-57), such that Matouk teaches “a rack that could be used with computers (which are not shown).” (Rejection at 5).

Applicants respectfully traverse. As described above, Matouk actually discloses at (3:49-57) that “this input/output module 41 will not be described in that they provide relatively standard input and output connections for use with a computer (not shown) ... the wiring for the electronic power supply 11 can be brought up through the computer floor and into the input/output modules 41.”

In other words, Matouk envisions that this modular power supply can be connected to a computer using these input and output connections. However, such a connection would not have

disclosed or otherwise suggested providing computers in the “framework” of the framework itself. Indeed, Matouk relates to a modular electronic power supply having customized components, not a computer rack, and certainly not an electronics rack having “standard openings” for use with rack mounted computers, as described by Dubin (e.g., 3:21-26).

In addition, and as described above, there is no disclosure or suggestion in either of these references as to how to alleviate connector access problems that would have resulted in a combination of the computer of Dubin with a framework of Matouk. Also, there is no suggestion in either Dubin or Matouk as to modify the chassis of Dubin in a way that would alleviate such access problems (as described above).

**3. Matouk in view of Dubin does not teach or suggest the claimed arrangement permitting air to flow through each computer such that airflow goes through, over, or adjacent to the at least one heat-generating component and wherein the rack and computers cooperate to direct airflow through the computers up down, or both to enter (claims 9, 25) or exit (claims 1, 17) the rack.**

These Applicant’s pending claims require that airflow through each computer goes through, over or adjacent to at least one heat-generating components of the computer, and that the rack and computer cooperate to direct this airflow. Independent claims 1 and 17 require that air is permitted to go through, over, or adjacent to the at least one heat-generating component, and that the airflow exits through an upper or lower section of the rack (or both). Independent claims 9 and 25 require that the air permitted to go through, over, or adjacent to the heat-generating components of the computer, and that the air exits the computer after entering from through a lower or upper, or both lower and upper, section of the rack.

The Examiner relies on Matouk to allegedly show the arrangement of a rack and modules that produces all of these recited airflows, even airflows moving in opposite directions. The Applicant’s respectfully disagree. Instead Matouk discloses that cooling air flows vertically in the “vertically disposed space” and passes adjacent to the modules, cooling the modules by conduction through the exterior walls such that the cooling air does not flow in or through the

modules as asserted by the Examiner (see Matouk, 2:31-39). In particular, Applicants submit that even if one assumes modules 42 and 43 of Matouk are adapted to allow or permit an airflow to pass through a portion thereof (as asserted by the Examiner), Matouk clearly fails to disclose or suggest that such an airflow (passing through a portion of modules 42 and 42) is also directed up, down, or both to exit the framework.

Applicants submit that modules 42 and 43 of Matouk are disclosed as including walls or sides that do not cooperate with the “framework” of Matouk to provide airflow as recited. The Rejection identifies FIGS. 5 and 6 as teaching to the contrary (Rejection at 4). However, the Rejection ignores that FIGS. 5 and 6 of Matouk are drawn specifically to illustrate the internal components of modules 42 and 43. By contrast, FIG. 3 illustrates how these modules are expected to fit within and work with the “framework” – here it is clear that these modules are depicted as having covers on the sides and the top. See, for example, reference number 42 in both FIG. 5 and FIG. 3, below. Matouk expressly describes the modules as including a boundary layer (base plate 57 and heat sink 77) separating the inside of the module with the vertical air space (see Matouk col. 4:25-45 and 5:9-25). Thus, any airflow does not either enter or exit the upper or lower section of the rack (or both) and flow through the module to enter or exit the module as recited in claims 1-50.

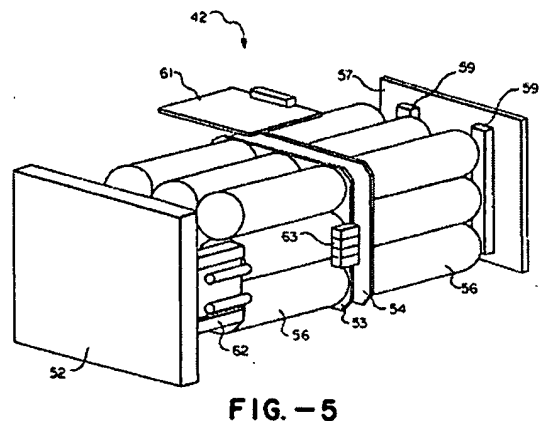
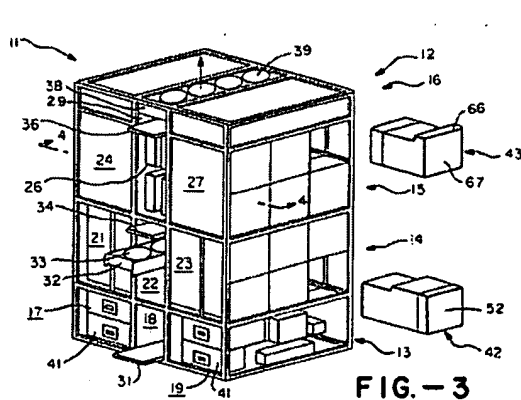


FIG. 4 of Matouk illustrates that air enters a vertically disposed space in the “framework” from the bottom, and is subjected to various measures to maintain the “vertical flow of

air from the bottom to the top.” (2:59-61). Matouk does not teach or suggest diverting the airflow into or through a module. In fact, Matouk discloses providing an “air straightener 34” specifically to “straighten out the air which is pushed out of the fan drawer 32.” (3:8-16). Matouk also discloses that the air “continues to move upwardly through the intermediate and top sections” (3:18-19) and ultimately enters a second air straightener, and another set of fans that serve to pull the air from the space.

Further, Matouk specifically discloses that the “power modules” (i.e., the modules alleged by the Examiner to disclose a back-to-back configuration) “have heat sinks extending into the vertically disposed space” and that the invention of Matouk has “means for forcing air in a vertical direction through the space.” (2:31-40). Matouk also describes that “Cooling for the RTC module [42] is accomplished by conduction from the exterior walls of the module into the room and also into the compartment 22 through which the air is passing” (Matouk, 4:54-57). Additionally, as shown in FIGS. 5 and 6, modules 42 and 43 include a base plate 57 and heat sink 76 facing inward toward compartment 22 (as shown in FIGS. 3 and 4). Thus, Applicants submit that Matouk does not disclose providing airflow according to the above-identified limitations of claims 1, 9, 17, and 25.

Even assuming modules 42 and 43 are not entirely enclosed, such that air might flow through a portion of modules 42 and 43, Matouk teaches that a wall or enclosure exists on the side facing inward within the framework, i.e., the side facing center compartment 22 for cooling the modules 42 and 43 via conduction (see, e.g., FIGS. 3-6 and base plate 57 and heat sink 76 of modules 42 and 43 respectively). Thus, even under such an assumption (which is in contradiction to Matouk FIG. 4), air that may flow through a portion of modules 42 and 43, as asserted by the Examiner based on FIGS. 5 and 6, would not be directed up, down, or both to exit the framework 12 to meet the features of the independent claims. Matouk does not teach that airflow goes “through, over, or adjacent to the at least one heat generating component,” and that “the rack and computers will cooperate to direct the airflow through the computers” up, down, or both to exit the rack.



Accordingly, the Examiner has failed to establish a *prima facie* case of obviousness because the references fail to teach each and every feature of the present claims. Furthermore, the addition of Dubin does not suggest a configuration of computers within a rack that produces an airflow as presently recited (nor is the addition of Dubin alleged to suggest this feature).

The Applicant's further point out that even if the Examiner is correct in asserting that the addition of Dubin to Matouk does show airflow through the module (i.e., Dubin's computer), the combination of Dubin and Matouk cannot show or suggest both airflow pathways; the airflow pathway recited in claims 1 and 17 (in which air flows into the computer from the rack) and the opposite airflow pathway recited in claims 9 and 25 (in which air flows out of the computer into the rack).

The Rejection appears to allege that Dubin perhaps completes the disclosure of Matouk regarding these airflow limitations by alleging that Dubin provides a teaching related to "permitted airflow." Even if Dubin discloses a rack-mountable computer where air flows through the computer, the Rejection offers no disclosure from the prior art as to how Dubin could be incorporated into the framework of Matouk, apparently as the Examiner alleges, in place of one or more of the functional modules of Matouk, in such a fashion as to preserve such airflow, while also meeting the other airflow limitations of the claims while also providing for access to connectors of the computers.

**(i) It is the Examiner's burden to show a teaching or suggestion, either explicit or inherent, of all the limitations of the claim.**

It appears that the Examiner may be shifting the burden to the Applicants to show that Matouk does not teach such airflow, because the rejection states that Matouk does not "teach any structure that would be considered air tight." (Rejection at 5, internal quotes omitted). However, it is the Examiner's burden to show such that Matouk teaches or suggests such airflow, and not the Applicants' burden to show Matouk does not.

If the Examiner is relying on inherency, then the high legal standard for application of inherency is not met. Inherency requires that a condition or other fact necessarily flow from what is disclosed in a reference. (*See Continental Can Co. USA, Inc. v. Monsanto* 948 F.2d 1264 (Fed. Cir. 1991, "... evidence must make clear that the missing descriptive matter is necessarily present in the thing described in the reference."))

Applicants submit that the modules of Matouk, as integrated in the "framework," are enclosed (see FIG. 4). Therefore, Applicants submit that, if anything, Matouk teaches or suggests that airflow is not provided over or through such modules.

#### **4. Claims 2-6, 8, 10-14, 16, 18-22, 24, 26-32**

Each of these claims depends from one of the independent claims above, and thereby benefits from the arguments described above. Applicants submit that each of the above claims is allowable at least because of the allowability of their parent claims, and allowance is respectfully requested.

#### **5. Claims 33 and 42**

Claims 33 and 42 are independent method claims for cooling of one or more heat-generating components in two or more computers mounted back-to-back in a rack.

Claim 33 includes directing air into and through each of the computers to cool at least one heat-generating component; and directing the air (1) up to exit the rack through an upper section of the rack, (2) down to exit the rack through a lower section of the rack, or (3) both.

Claim 42 includes directing air to cool the one or more heat-generating components (1) up to enter the rack through a lower section of the rack, (2) down to enter the rack through an upper section of the rack, or (3) both; and directing the air through the computers such that the air flows through, over, or adjacent to the at least one heat-generating component.

It was described above how the combination of Matouk and Dubin does not teach or suggest computers mounted back-to-back in a rack, or the airflow patterns recited in claims 33 and 42.

Therefore, Applicants submit that these methods claims are also non-obvious over the combination of Matouk and Dubin, and respectfully request allowance of claims 33 and 42.

**6. Claims 38-41, 43, and 46-50**

These claims depend from either claim 33 or 42, and thereby incorporate all the limitations of claims that Applicants submit are non-obvious over Matouk and Dubin. Allowance of these claims is also requested.

**B. Whether claims 7, 15, 23, 31, 35, 36, 44, and 45 are patentable over U.S. Patent No. 4,691,274 (Matouk) in view of U.S. Patent No. 5,971,506 (Dubin), and further in view of U.S. Patent No. 6,011,689 (Wrycraft).**

The Rejection does not allege that Wrycraft cures the above-identified deficiencies of the combination of Matouk and Dubin. Rather, Wrycraft is cited for a disclosure of a location of a vent and fans in a rack mountable computer chassis. As such, Wrycraft is not cited for any disclosure, nor does it appear to contain any disclosure, relating to a teaching or suggestion to modify the chassis of Dubin in a way to alleviate the connector access problem. Wrycraft is also not cited for any disclosure related to the airflow patterns claimed in any of claims 1, 9, 17, 25, and 51. Wrycraft also does not appear to provide any motivation to modify or combine Matouk and/or Dubin to arrive at the limitations of these claims. As such, Wrycraft does not appear to cure the deficiencies of Matouk and Dubin, and Applicants therefore submit that the claims from which claims 7, 15, 23, 31, 35, 36, 44, and 45 depend are non-obvious over Matouk, Dubin, and Wrycraft. Allowance is respectfully requested.

**Conclusion**

For the forgoing reasons, Applicant requests reversal of the Examiner's rejections of claims

1-51, and allowance of all pending claims.

VIII. CLAIMS APPENDIX

A list of the claims involved in the present appeal is attached hereto as Appendix A.

IX. EVIDENCE APPENDIX

None.

X. RELATED PROCEEDINGS APPENDIX

A copy of a claim construction order from the above-referenced litigation is included as Appendix B.

Dated: February 23, 2007

Respectfully submitted,

By 

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**APPENDIX A**

Claims involved in the Appeal of Application Serial No. 10/678,006

Claim 1: A set of computers comprising:

at least two computers, each computer comprising at least one heat-generating component;  
and

a rack configured for the at least two computers to be placed in a back-to-back  
configuration, wherein

air is permitted to flow through each computer such that airflow goes through, over,  
or adjacent to the at least one heat-generating component, and

the rack and computers will cooperate to direct the airflow through the computers  
(1) up to exit the rack through an upper section of the rack, (2) down to exit the rack through a  
lower section of the rack, or (3) both.

Claim 2: The set of claim 1 wherein each computer further comprises a chassis comprising  
a front panel.

Claim 3: The set of claim 1 wherein each computer further comprises a chassis comprising  
enclosing at least one main board.

Claim 4: The set of claim 1 wherein the computers and the rack cooperate to define a space  
between at least two back-to-back computers.

Claim 5: The set of claim 3 wherein the computers and the rack cooperate to define a space  
between at least two back-to-back computers.

Claim 6: The set of claim 3 wherein the computers are configured with at least one vent.

Claim 7: The set of claim 6 wherein the at least one vent is provided at a back section of at least one of the computers.

Claim 8: The set of claim 6 wherein the at least one vent is provided at a front section of at least one of the computers.

Claim 9: A set of computers comprising:

at least two computers, each computer comprising at least one heat-generating component, ;  
and

a rack configured for the at least two computers to be placed in a back-to-back configuration, wherein air is permitted to flow through each computer such that airflow goes through, over, or adjacent to the at least one heat-generating component, and the rack and computers will cooperate to direct air such that the air (1) flows up to enter the rack through a lower section of the rack, (2) flows down to enter the rack through an upper section of the rack, or (3) both, and exits through the computers.

Claim 10: The set of claim 9 wherein each computer further comprises a chassis comprising a front panel.

Claim 11: The set of claim 9 wherein each computer further comprises a chassis enclosing at least one main board.

Claim 12: The set of claim 9 wherein the computers and the rack cooperate to define a space between at least two back-to-back computers.

Claim 13: The set of claim 11 wherein the computers and the rack cooperate to define a space between at least two back-to-back computers.

Claim 14: The set of claim 11 wherein the computers are configured with at least one vent.

Claim 15: The set of claim 14 wherein the at least one vent is provided at a back section of at least one of the computers.

Claim 16: The set of claim 14 wherein the at least one vent is provided at a front section of at least one of the computers.

Claim 17: A set of computers comprising:

a rack; and

at least two computers, each computer comprising at least one heat-generating component;

wherein the computers are positioned in the rack in a back-to-back configuration, wherein

air is permitted to flow through each computer such that airflow goes through, over, or adjacent to the at least one heat-generating component, and the rack and computers cooperate to direct the airflow that flows through the computers (1) up to exit the rack through an upper section of the rack, (2) down to exit the rack through a lower section of the rack, or (3) both.

Claim 18: The set of claim 17 wherein each computer further comprises a chassis comprising a front panel.

Claim 19: The set of claim 17 wherein each computer further comprises a chassis enclosing at least one main board.

Claim 20: The set of claim 17 wherein the computers and the rack cooperate to define a space between at least two back-to-back computers.

Claim 21: The set of claim 19 wherein the computers and the rack cooperate to define a space between at least two back-to-back computers.

Claim 22: The set of claim 19 wherein the computers are configured with at least one vent.

Claim 23: The set of claim 22 wherein the at least one vent is provided at a back section of at least one of the computers.

Claim 24: The set of claim 22 wherein the at least one vent is provided at a front section of at least one of the computers.

Claim 25: A set of computers comprising:

a rack; and

at least two computers, each computer comprising at least one heat-generating component;

wherein the computers are positioned in the rack in a back-to-back configuration, wherein air is permitted to flow through each computer such that airflow goes through, over, or adjacent to the at least one heat-generating component, and the rack and computers cooperate to direct air (1) up to enter the rack through a lower section of the rack, (2) down to enter the rack through an upper section of the rack, or (3) both, and exits through the computers.

Claim 26: The set of claim 25 wherein each computer further comprises a chassis comprising a front panel.

Claim 27: The set of claim 25 wherein each computer further comprises a chassis enclosing at least one main board.

Claim 28: The set of claim 25 wherein the computers and the rack cooperate to define a space between at least two back-to-back computers.

Claim 29: The set of claim 27 wherein the computers and the rack cooperate to define a space between at least two back-to-back computers.

Claim 30: The set of claim 27 wherein the computers are configured with at least one vent.

Claim 31: The set of claim 30 wherein the at least one vent is provided at a back section of at least one of the computers.

Claim 32: The set of claim 30 wherein the at least one vent is provided at a front section of at least one of the computers.

Claim 33: A method of cooling one or more heat-generating components in two or more computers, where such computers are mounted back-to-back in a rack, the method comprising:



directing air into and through each of the computers to cool at least one heat-generating component; and

directing the air (1) up to exit the rack through an upper section of the rack, (2) down to exit the rack through a lower section of the rack, or (3) both.

Claim 34: The method of claim 33 further comprising the step of providing the back-to-back computers to form in cooperation with the rack a space between the back-to-back computers.

Claim 35: The method of claim 34 further comprising the step of providing fans in the computers, the fans adapted to draw air from the computers into the space between the computers.

Claim 36: The method of claim 35 further comprising the step of providing fans in the computers, the fans adapted to pass air through, over, or adjacent to the at least one heat-generating component and into the space between the computers.

Claim 37: The method of claim 34 wherein the step of directing air into and through each of the computers comprises providing forced air to the computers.

Claim 38: The method of claim 34 wherein the step of directing air into and through each of the computers comprises providing air conditioned air to the computers.

Claim 39: The method of claim 34 wherein the step of directing air into and through each of the computers comprises drawing air to cool the at least one heat-generating component in from the environment and exhausting the air out the rack.

Claim 40: The method of claim 33, wherein the one or more heat-generating components are provided on one or more main boards of the computers, where each of the computers has a front section and a back section.

Claim 41: The method of claim 33, wherein the one or more heat-generating components comprise power supplies.

Claim 42: A method of cooling one or more heat-generating components in two or more computers, where such computers are mounted back-to-back in a rack, the method comprising:

directing air to cool the one or more heat-generating components (1) up to enter the rack through a lower section of the rack, (2) down to enter the rack through an upper section of the rack, or (3) both; and

directing the air through the computers such that the air flows through, over, or adjacent to the at least one heat-generating component.

Claim 43: The method of claim 42 further comprising the step of providing the back-to-back computers to form in cooperation with the rack a space between the back-to-back computers.

Claim 44: The method of claim 43 further comprising the step of providing fans in the computers, the fans adapted to draw air from the space between the computers to cool the at least one heat-generating component.

Claim 45: The method of claim 44 further comprising the step of providing fans in the computers, the fans adapted to pass air from the space between the computers and through, over, or adjacent to the at least one heat-generating component.

Claim 46: The method of claim 43 wherein the step of directing air to cool the one or more heat-generating components comprises providing forced air to the space.

Claim 47: The method of claim 43 wherein the step of directing air to cool the one or more heat-generating components comprises providing air conditioned air to the space.

Claim 48: The method of claim 43 wherein the step of directing air to cool the one or more heat-generating components comprises drawing air to cool the at least one heat-generating component in from the environment and exhausting the air out the rack.

Claim 49: The method of claim 42, wherein the one or more heat-generating components are provided on one or more main boards of the computers, where each of the computers has a front section and a back section.

Claim 50: The method of claim 42, wherein the one or more heat-generating components comprise power supplies.

Claim 51: A set of computers, comprising:

at least two computers, each computer comprising at least one heat-generating component, ;

a rack configured for the at least two computers to be placed in a back-to-back configuration, wherein air is permitted to flow through each computer such that airflow goes through, over, or adjacent to the at least one heat-generating component such that the airflow flows through the back-to-back computers and the rack.



APPENDIX B

UNITED STATES DISTRICT COURT  
NORTHERN DISTRICT OF CALIFORNIA

RACKABLE SYSTEMS, INC.,

Plaintiff,

No. C 05-3561 PJH

v.

**ORDER CONSTRUING CLAIMS**

SUPER MICRO COMPUTER, INC.,

Defendant.

On October 4, 2006, the court held a claim construction hearing to construe the disputed terms of U.S. Patent Nos. 6,596,366 and 6,850,408 pursuant to *Markman v. Westview Instruments, Inc.*, 517 U.S. 370 (1996). Having read the parties' papers and carefully considered their arguments and the relevant legal authority, the court rules as follows.

**BACKGROUND**

Plaintiff Rackable Systems, Inc. ("Rackable") owns two patents concerning high density computer equipment storage systems. The patents are U.S. Patent No. 6,496,366 ("the '366 patent") and U.S. Patent No. 6,850,408 ("the '408 patent"). The '408 patent is a continuation of the '366 patent, and the two patents share the same specification.

In October 1999, three co-inventors, one of whom was Giovanni Coglitore, who presented at the tutorial in this case, founded Rackable Systems LLC, the predecessor to Rackable. They founded Rackable to market the "back-to-back" and "front access" storage systems that they had previously devised. Rackable Systems, LLC subsequently merged with and into the prior Rackable Systems, Inc. in January 2001. Rackable Systems, Inc.

1 then assigned the patents to Rackable Corporation in December 2002. Rackable  
2 Corporation later changed its name to the present Rackable Systems, Inc.

3 The patents' specification describes the incentive for the inventions. It discusses  
4 how the inventions intended to increase the efficiency at server locations by enabling front  
5 access to computers, for which access had previously generally been in the rear. This, in  
6 turn, enabled the placement of the computers back-to-back, thereby increasing the number  
7 of computers that could be racked and stored at a given facility. Rackable's '366 patent is  
8 focused primarily on the "back-to-back" rackmounting of computer servers, while the '408  
9 patent is focused on "front access" design, enabling access to certain components from the  
10 front of the computer as opposed to the back.

11 Rackable filed this case on September 2, 2005, against Supermicro for infringement  
12 as to both the '366 and '408 patents. Supermicro is a competitor of Rackable, and imports  
13 and sells servers and "motherboards." Rackable contends that Supermicro recently began  
14 importing and selling computers that violate Rackable's patent rights.

## 15 DISCUSSION

### 16 A. Legal Standards

17 Patent infringement analysis involves a two-step process. First, the court must  
18 determine as a matter of law the correct scope and meaning of disputed claim terms.  
19 Second, the properly construed claims are compared to the accused device to see whether  
20 the device contains all the limitations (literally or by equivalents) in the claims at issue.  
21 *Markman*, 517 U.S. at 384.

22 "[T]he claims of a patent define the invention to which the patentee is entitled the  
23 right to exclude." *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (citation and  
24 quotation omitted); see also *Renishaw PLC v. Marposs Societa' per Azioni*, 158 F.3d 1243,  
25 1248 ( Fed. Cir. 1998) (claim construction "begins and ends" with the actual words of the  
26 claims). "A patentee is presumed to have intended the ordinary meaning of a claim term in  
27 the absence of an express intent to the contrary. *York Prods., Inc. v. Central Tractor Farm*  
28 *& Family Ctr.*, 99 F.3d 1568, 1572 ( Fed. Cir. 1996). The ordinary and customary meaning

1 of a claim term is "the meaning that the term would have to a person of ordinary skill in the  
2 art in question at the time of the invention." *Phillips*, 415 F.3d at 1313. The person of  
3 ordinary skill in the art is "deemed to read the claim term not only in the context of the  
4 particular claim . . . but in the context of the entire patent, including the specification." *Id.*  
5 The words in the claim may also be interpreted in light of the prosecution history, if in  
6 evidence. *Teleflex, Inc. v. Ficosa North Am. Corp.*, 299 F.3d 1313, 1324-25 (Fed. Cir.  
7 2002) (citations omitted). "Such intrinsic evidence is the most significant source of the  
8 legally operative meaning of disputed claim language." *Vitronics Corp. v. Conceptronic,*  
9 *Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996).

10 In terms of intrinsic evidence, the court begins with the language of the claims. See  
11 *id.* When considering the claim language, "the context in which a claim is used in the  
12 asserted claim can be highly instructive." *Phillips*, 415 F.3d at 1314. The court may also  
13 consider the other claims of the patent, both asserted and unasserted. *Id.* For example, as  
14 claim terms are normally used consistently throughout a patent, the usage of a term in one  
15 claim may illuminate the meaning of the same term in other claims. *Id.* The court may also  
16 consider differences between claims to guide in understanding the meaning of particular  
17 claim terms.

18 Additionally, the claims "must [also] be read in view of the specification, of which  
19 they are a part." *Id.* at 1315. When the specification reveals a special definition given to a  
20 claim term by the patentee that differs from the meaning it would otherwise possess, the  
21 inventor's lexicography governs. *Id.* at 1316.

22 However, as a general claim construction principle, the *Phillips* court warned of the  
23 "danger of reading limitations from the specification into the claim." *Id.* at 1323. While "the  
24 specification often describes very specific embodiments of the invention, the Federal Circuit  
25 has "repeatedly warned against confining the claims to those embodiments." *Id.* Even if  
26 the "patent describes only a single embodiment, the claims of the patent must [not] be  
27 construed as being limited to that embodiment." *Id.*

28

1 Prosecution history is also considered intrinsic evidence. In *Phillips*, the Federal  
2 Circuit reaffirmed the importance of the prosecution history, which represents an ongoing  
3 negotiation between the PTO and the applicant. *Id.* at 1317. Like the specification, the  
4 prosecution history "provides evidence of how the PTO and the inventor understood the  
5 patent." *Id.* It is nevertheless less helpful than the specification since the history  
6 represents the process of negotiation rather than the final product of negotiation. *Id.*

7 In most cases, claims can be resolved based on intrinsic evidence. See *Vitronics*,  
8 90 F.3d at 1583. Only if an analysis of the intrinsic evidence fails to resolve any ambiguity  
9 in the claim language may the court then rely on extrinsic evidence, such as expert  
10 testimony, prior art, and inventor testimony. *Phillips*, 415 F.3d at 1317. While extrinsic  
11 evidence "can shed useful light on the relevant art," the *Phillips* court noted that it is "less  
12 significant than the intrinsic record in determining the legally operative meaning of claim  
13 language." *Id.* (citations omitted). It noted the following deficiencies associated with  
14 extrinsic evidence: (1) it is not part of the patent and does not have the specification's virtue  
15 of being created at the time of patent prosecution for the purpose of explaining the patent's  
16 scope and meaning; (2) expert reports and testimony are "generated at the time of and for  
17 the purpose of litigation and thus can suffer from bias that is not present in intrinsic  
18 evidence;" (3) "there is a virtually unbounded universe of potential extrinsic evidence that  
19 could be brought to bear on any claim construction question;" and (4) "undue reliance on  
20 extrinsic evidence poses the risk that it will be used to change the meaning of claims." *Id.*  
21 at 1318.

22 Dictionaries and comparable sources may be used in claim construction as "long as  
23 the dictionary definition does not contradict any definition found in or ascertained by a  
24 reading of the patent documents." *Id.* at 1322-23. The *Phillips* court noted that:

25 The main problem with elevating the dictionary to such prominence is that it  
26 focuses the inquiry on the abstract meaning of words rather than on the  
27 meaning of claim terms within the context of the patent. Properly viewed, the  
28 "ordinary meaning" of a claim term is its meaning to the ordinary artisan after  
reading the entire patent. [H]eavy reliance on the dictionary divorced from the  
intrinsic evidence risks transforming the meaning of the claim term to the  
artisan into the meaning of the term in the abstract, out of its particular  
context, which is the specification.

1 *Id.* at 1321. For these reasons, the specification is “the single best guide to the meaning of  
2 a disputed term, and that the specification [itself] acts as a dictionary when it expressly  
3 defines terms used in the claims or when it defines terms by implication.” *Id.*

4 “Every patent’s specification must ‘conclude with one or more claims particularly  
5 pointing out and distinctly claiming the subject matter which the applicant regards as his  
6 invention.’” *Datamize, LLC v. Plumtree Software, Inc.*, 417 F.3d 1342, 1347 (Fed. Cir.  
7 2005) (citing 35 U.S.C. § 112, ¶ 2 (2000)). Claim indefiniteness is determined as a matter  
8 of law by the court construing the patent claims. *Id.*

9 “[T]he purpose of the definiteness requirement is to ensure that the claims delineate  
10 the scope of the invention using language that adequately notifies the public of the  
11 patentee’s right to exclude.” *Id.* The requirement does not, however, “compel absolute  
12 clarity.” *Id.* Instead, only claims “not amenable to construction or insolubly ambiguous are  
13 indefinite.” *Id.* (citations omitted). Therefore, “the definiteness of claim terms depends on  
14 whether those terms can be given any reasonable meaning.” *Id.*

15 A claim is not indefinite simply because it presents a “difficult issue of claim  
16 construction.” *Id.* (citing *Exxon Research & Eng’g Co. v. United States*, 265 F.3d 1371,  
17 1375 (Fed. Cir. 2001)). An issued patent is entitled to a statutory presumption of validity.  
18 *Id.* Clear and convincing evidence is required to invalidate a patent. *Id.* at 1348. “In the  
19 face of an allegation of indefiniteness, general principles of claim construction apply.” *Id.*

## 20 B. Disputed Terms

### 21 1. “rack”

22 This term appears in the ‘366 patent claims 1, 4, 6, 18, 23, 29, 30, 32, 35, 37, 41, 42,  
23 46, and 47. Rackable contends that “rack” means “*frame or cabinet for holding multiple*  
24 *computer chassis that can be removed and are accessible after installation, such as a*  
25 *standard industry server rack.*” Supermicro proposes that “rack” means “*a frame or cabinet*  
26 *that contains mounting arrangements for holding electronic devices in a stacked manner.*”

27 The essence of the parties’ dispute concerns whether “rack” should be construed to  
28 mean a particular type of frame or cabinet used in the server storage industry, or whether it



1 should be construed as a more general purpose rack capable of holding all types of  
2 electronic devices; *and* whether the device enables the mounting or the removal of the  
3 computers or electronic devices.

4 Rackable argues that “rack” refers to a particular type of electronic device –  
5 computer chassis – and enables removal. In support of its construction, Rackable  
6 contends that the patent itself targets the computer server industry, and notes that the  
7 specification example, figure 4, is of a type of rack used for holding computers in the high-  
8 density computer industry. It also argues that figure 4 of the patent demonstrates that the  
9 rack is a type that enables the removal of the computers after installation. Rackable further  
10 asserts that its construction, referring to the “standard industry server rack,” is consistent  
11 with the patent itself, which describes a rack whose dimensions are those of a “standard  
12 industry server rack.”

13 Supermicro contends that “racks” store electronic devices generally, and enable the  
14 mounting of the devices. Supermicro responds that figure 4 to the ‘366 patent supports its  
15 construction. It also relies in part on the expert declaration of Sam Wood. In support of its  
16 mounting argument, Supermicro also cites to language in the patent for the proposition that  
17 “[i]n a typical setup, the rack will have holes and the electronic devices will contain ‘ears’  
18 that are screwed into the holes, thus connecting the electronic devices to the rack.” It  
19 further argues that the specification discloses that the rack can hold items other than  
20 computers. Finally, Supermicro asserts that its construction is supported by technical  
21 dictionary definitions.

22 Because the patent is not ambiguous, the court declines to consider extrinsic  
23 evidence as to this term. It also declines to adopt either party’s construction in full. First,  
24 the court finds that the intrinsic evidence supports Rackable’s construction that the “rack”  
25 holds computers, as opposed to Supermicro’s more general construction, which  
26 encompasses all “electronic devices.” The ‘366 specification’s field, background, and  
27 summary of the invention clarifies that the patent concerns the storage of computers, as  
28 opposed to simply “electronic devices.” There is absolutely no suggestion anywhere in the

1 patent that the rack is utilized for holding other types of electronic devices. See, e.g.,  
2 *Phillips*, 415 F.3d at 1313 (person of ordinary skill is "deemed to read the claim term not  
3 only in the context of the particular claim . . . but in the context of the entire patent,  
4 including the specification").

5 The court also rejects both of the parties' injection of the mounting and removability  
6 limitations on the computers held by the racks. Those are limitations that are not properly  
7 read into this court's construction of the claims. The law is clear that it is error to import a  
8 limitation from the specification into the claim. *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358  
9 F.3d 898, 904 (Fed. Cir. 2004). The "fact that a patent asserts that an invention achieves  
10 several objectives does not require that each of the claims be construed as limited to  
11 structures that are capable of achieving all of the objectives." *Id.* at 908. Nor should an  
12 embodiment disclosed in the specification limit the claims. *Id.* at 906.

13 In conclusion, the court adopts a modified version of Rackable's construction of the  
14 term "rack" as a **frame or cabinet for holding multiple computer chassis**.

15 2. "computer"

16 This term appears in both the '366 patent and the '408 patent. It appears in the '366  
17 patent claims 1, 2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24,  
18 25, 26, 29, 30, 31, 32, 33, 34, 35, 37, 38, 39, 44, 45, 46, and 47; and in all claims 1-17 of  
19 the '408 patent.

20 Rackable contends that "computer" means "*general purpose computer including a*  
21 *main board and additional components, such as a server.*" Supermicro contends that  
22 "computers" means "*a device capable of processing information to produce a desired*  
23 *result.*"

24 The essence of this dispute is whether, as Rackable contends, "computer" refers to  
25 a general purpose computer like a server, or whether it is even more generic, as argued by  
26 Supermicro.

27 Rackable argues that the patent specification clarifies that the patent targets  
28 problems related to densely packed data centers. Because computers in data centers are

1 general purpose computers, it asserts that its construction is consistent with the  
2 specification. Rackable contends that Supermicro's construction is contrary to the patent.  
3 It asserts that according to defendant, "computer" would include all processing devices –  
4 not just computers in a data center environment.

5 Supermicro argues that its construction is consistent with the specification, and that  
6 several technical dictionaries support its construction as well. It contends that Rackable  
7 seeks to improperly read limitations into the claim terms that do not exist. It further notes  
8 that the phrase "general purpose computer," as urged by Rackable, does not exist  
9 anywhere in the specification, in a dictionary; nor is it supported by expert testimony.

10 At the October 4, 2006 hearing, the court indicated that it did not find either parties'  
11 constructions convincing. The court noted that Supermicro's definition was too generic,  
12 and that Rackable's attempt to limit the definition to a "general purpose" computer, a  
13 phrase not employed by or defined by the specification, was also problematic. However,  
14 because the court believed that construction is a matter for the parties in the first instance,  
15 it afforded the parties an opportunity to meet and confer regarding the term in light of the  
16 court's stated concerns. The parties subsequently notified the court that they were unable  
17 to reach an agreement regarding construction of "computer."

18 Accordingly, the court declines to adopt either parties' construction, and construes  
19 "computer" as **a computer that functions as a server**. For the reasons noted on the  
20 record at the hearing, Supermicro's construction is too generic. As for Rackable's  
21 proposed construction, it not only improperly reads in limitations from the specification, but  
22 it inserts language that improperly modifies the term "computer." Because there is nothing  
23 in the intrinsic evidence to suggest the ordinary meaning of "computer" was not meant to  
24 apply, the court finds no need to further define "computer" other than that it should function  
25 as a server.

1                   3.     "front"

2             This term also appears in both the '366 patent and the '408 patent. It appears in the  
3 '366 patent claims 1, 2, 4, 6, 7, 8, 41, 44, 45, 46, and 47; and the '408 patent claims 1, 2-6,  
4 and 9-15.

5             Rackable contends that "front" means *"the most forward panel that will face toward*  
6 *the user when sliding or moving the computer into or out of a rack. In a standard full depth*  
7 *configuration, the front panel is opposite the side having I/O connectors for connecting to*  
8 *peripheral equipment such as a router. In the patented configuration, the orientation of the*  
9 *main board in the chassis is reversed."* Supermicro asserts that "front" is indefinite under  
10 35 U.S.C. § 112(2), or alternatively, means *"a panel designed to face toward the user, such*  
11 *as a panel designed to face forward when placed in a rack."*

12             Rackable therefore argues for a narrow definition of "front," while Supermicro argues  
13 that the term is either indefinite or for a broader definition.

14             Supermicro asserts that "front" is indefinite and ambiguous as used in the patents. It  
15 argues that it requires some frame of reference. It contends that normally, computers have  
16 a top, bottom, and four vertical sides, and that a member of the public could not determine  
17 which side of the computer is the "front" for purposes of determining infringement.  
18 Accordingly, Supermicro argues that the term is incapable of construction.

19             Alternatively, Supermicro argues that the '366 patent provides support for its  
20 construction of "front" – that when a computer is placed in a rack, the "front" side is the side  
21 that faces out toward the user. However, Supermicro then argues that there is still  
22 ambiguity regarding the '408 patent since that patent does not require a "rack" in its claims,  
23 and it is difficult to determine which side of a stand-alone computer is designed to face the  
24 user.

25             Rackable contends that Supermicro has not shown by clear and convincing  
26 evidence that the term is indefinite. Rackable further argues that Supermicro's construction  
27 ignores the specification, and standard industry practice, which entails I/O access from the  
28 rear main board. It contends that Supermicro's "irrelevant prior art" demonstrates as much.

1       The court adopts in part Supermicro's construction of "front" as a **panel designed to**  
2 **face forward when placed in a rack** as applied to the '366 patent only. The court rejects  
3 both parties' constructions to the extent that they refer to a "user." Reference to a "user" is  
4 too ambiguous, as there are multiple user purposes, and the term "front" cannot be defined  
5 according to how the computer is being used. See *Datamize*, 417 F.3d at 1350. Although  
6 "a patentee need not define his invention with mathematical precision to satisfy the  
7 definiteness requirement," there must be some "objective anchor" by which skilled artisans  
8 can identify whether they are practicing the patented invention. *Id.* (concluding that term  
9 "aesthetically pleasing" was indefinite because it was too subjective). Here, as in  
10 *Datamize*, reference to "user" renders the term indefinite because its scope depends "solely  
11 on the unrestrained subjective [purpose] of a particular individual purportedly practicing the  
12 invention." See *id.*

13       As noted above, though, the court's construction of "front" is limited to the '366  
14 patent. That is because the '366 patent, unlike the '408 patent, provides an "objective  
15 anchor" in terms of the existence of the "rack." Because the '408 patent lacks such an  
16 "objective anchor," the court concludes that "front" is indefinite under 35 U.S.C. § 112 as  
17 concerns the '408 patent.

18       The court recognizes that the finding of indefiniteness with respect to "front" as to the  
19 '408 patent *only* may have some adverse impact with regard to the '366 patent, which  
20 contains the same term. However, the court is unclear regarding what, if any, impact may  
21 occur, and expects that the parties will advise the court of any such impact *in their briefing*  
22 *on the dispositive motions.*

23               4.       "components requiring intermittent physical access"

24       This term appears in the '366 patent claims 15, 16, and 39.

25       Rackable asserts that "components requiring intermittent physical access" means  
26 "*features that would normally be accessed in use from the rear of the main board in a*  
27 *standard computer chassis, such as I/O connectors, and accessible data drives if present.*"  
28 Supermicro contends that "components requiring intermittent physical access" is indefinite

1 under 35 U.S.C. § 112 due to the word "intermittent," or alternatively, means "*parts of the*  
2 *computer requiring occasional physical access by a user or operator.*"

3 Supermicro again argues that this phrase is indefinite, based on the term  
4 "intermittent." It argues that the term does not adequately describe the degree of access  
5 required, and is therefore ambiguous. Supermicro further asserts that Rackable's definition  
6 itself makes the phrase increasingly vague and ambiguous. It argues that the terms  
7 "normally" and "standard" are themselves subjective and ambiguous. Alternatively,  
8 Supermicro argues that the term "intermittent" should be replaced with "occasional," based  
9 on the dictionary definition of "intermittent."

10 Rackable responds that Supermicro's "reason for pretending there is ambiguity is  
11 [to] move the claims away from main board features to instead require non-main board  
12 features, such as the socket for the power plug, to be on front, even though the socket is  
13 not a main board feature, the plug and power source is not a peripheral device, and the  
14 front panel power and reset buttons confirm the lack of need for intermittent access to a  
15 socket."

16 The '366 patent abstract, suggests that "intermittent" is synonymous with "periodic."  
17 It provides in part:

18 By placement of access space to all elements which require *periodic* attention  
19 at the front of each computer, the need for significant space at the rear of the  
computer is eliminated.

20 '366 patent. Additionally, in the summary of the invention, the specification provides,  
21 regarding the elements that should be located at the front of the computer, that: "Desirably,  
22 those [attachments] which require physical access *periodically* or *would significantly hinder*  
23 *forward removal of the machine from a rack* in which it may be placed are provided for at  
24 the front of the chassis." '366 patent, 4: 9-12.

25 However, the patent's reference to "periodic" does not save the term from  
26 indefiniteness. That is because both terms – "periodic" and "intermittent" – suggest time  
27 frames, and a certain regularity that depends on a *user's* purpose. However, as discussed  
28 above regarding the term "front," because a user's purpose is highly subjective and

1 variable, the terms "periodic" and "intermittent" do not provide the type of "objective anchor"  
2 required by 35 U.S.C. § 112.<sup>1</sup>

3 For these reasons, the court declines to adopt either parties' construction, and  
4 concludes that "components requiring intermittent physical access" is indefinite under 35  
5 U.S.C. § 112.

6 5. "main board"

7 This term appears in the '408 patent claims 1 and 9.

8 Rackable asserts that "main board" means "*main circuit board inside the computer*  
9 *that makes it possible for the other parts of a computer to communicate with each other,*  
10 *into which additional boards may be plugged if present.*" Supermicro asserts that "main  
11 board" means "*a circuit board that contains the primary components of a computer.*"

12 The essence of this dispute is whether this term constitutes the principal board in  
13 the computer through which other parts of the computer communicate, as Rackable  
14 contends, as opposed to any printed circuit board having a processor, according to  
15 Supermicro.

16 Rackable explains that a computer may contain several printed circuit boards, but  
17 that the "main board" is "the largest printed circuit board in the computer" into which other  
18 circuit boards would plug. It asserts that many electronic devices contain circuit boards, but  
19 do not contain "main boards" as found in general purpose computers such as servers. In  
20 support, Rackable cites to extrinsic evidence, including several different print and online  
21 dictionaries. In addition to the dictionary definitions, in support of its construction, Rackable  
22 also argues that one of ordinary skill in the art "would expect a main board of the basic type  
23 that permits the level of functionality required of a general purpose computer, . . . also  
24 known as a 'motherboard'" and "would also know that the main board in a general purpose  
25  
26

---

27 <sup>1</sup> The court also rejects Supermicro's alternative construction of "intermittent" as  
28 "occasional." Both "intermittent" and "periodic" suggest some regularity, which is  
not reflected in the term "occasional."

1 computer makes it possible for the other parts of the computer to communicate with each  
2 other."

3 Supermicro, in response, argues that specification language supports its  
4 construction, in addition to extrinsic evidence, including several computer and/or electronic  
5 dictionary definitions.

6 At the hearing, the parties agreed that "main board" is synonymous with  
7 "motherboard." Based on the admissions at the hearing, it is clear to the court that the  
8 parties agree that the "main board" includes "the primary components of a computer," and  
9 is distinguishable from a daughter board. In fact, Supermicro made a judicial admission  
10 that a "main board" is *not* the same thing as a daughter board. Thus, the real issue  
11 concerns the amount of detail that should be provided regarding the function of the  
12 motherboard or "main board" and its relation to other boards. As noted, per Rackable's  
13 construction, the "main board" should be construed to include language regarding  
14 communication, specifically that it is a circuit board that enables "other parts of a computer  
15 to communicate with each other," and should also be construed to note that additional  
16 boards, if present, may be plugged into it.

17 The only guidance in the specification itself appears to be several examples of  
18 "[p]referred main boards," which include "models N44BX, L44GX, 810, 810E and C440GX  
19 by Intel." However, the court cannot read limitations from the embodiment or the examples  
20 in the specification into the definition. Because analysis of the intrinsic evidence fails to  
21 resolve the ambiguity, the court will consider the extrinsic evidence – most significantly, the  
22 dictionary definitions provided by the parties.

23 Rackable cites to five dictionary definitions in support of its construction, including:  
24 (1) a CNET.com definition (Ostapuk Decl., Exh. X); (2) Merriam-Webster's Online  
25 Dictionary (Exh. Y); (3) Free Online Dictionary of Computing (Exh. Z); (4) Microsoft Press  
26 Computer Dictionary (Exh. AA); and (5) an Answers.com definition (Exh. EE).

27 Supermicro cites to three different dictionary definitions in support of its construction,  
28 including: (1) Microsoft Computer Dictionary definitions of "main board" and "mother board;"



(Yamashita Decl., Exh. D) (3) Dictionary of Computer and Internet Terms (Exh. F); and (4) the IEEE Standard Dictionary of Electrical and Electronic Terms (Exh. E).

Technical treatises and dictionaries are generally preferred over a definition in an ordinary dictionary based on "the principle that patents are to be construed by the hypothetical person skilled in the art." Kahrl, Patent Claim Construction, § 7.03[B], Technical Treatises (Aspen 2005 Suppl.); *see also, e.g., Rambus, Inc. v. Infineon Technologies AG*, 318 F.3d 1081, 1091 (Fed. Cir. 2003). "A technical treatise is more likely to provide a definition used by persons skilled in the art than an ordinary dictionary definition." *Id.* In defining electrical and computer terms, the Federal Circuit has employed computing dictionaries and the IEEE Standard Dictionary of Electrical and Electronic terms, as offered by Supermicro in this case. *See Rambus*, 318 F.3d at 1091; *see also Neomagic Corp. v. Trident Microsystems, Inc.*, 287 F.3d 1062, 1071 (Fed. Cir. 2002).

Here, the technical dictionaries overwhelmingly support Supermicro's construction of the term "main board," with one modification – that the "main board" be "main" or "primary." Rackable's definition is unnecessarily complex and contains limitations on the definition of "main board" that are not universally present in the dictionary definitions.

For these reasons, the court adopts, with one addition, Supermicro's construction, and construes the term "main board" as **a main circuit board that contains the primary components of a computer.**

#### 6. "a chassis comprising a front panel"

This term appears in the '408 patent claims 1 and 9. Rackable contends that "a chassis comprising a front panel" means a *"frame or housing for the general purpose computer including the main board and including a front panel providing access as claimed."* Supermicro asserts that "a chassis comprising a front panel" means *"a frame or housing including a front panel."*

The essence of the dispute is whether the "chassis" is for a general purpose computer, or whether it is simply any frame or housing. Again, Rackable argues for the narrower, more specific construction, and Supermicro the broad one.

1 Rackable argues that the claims themselves refer to "the computer" and the various  
2 components of the computer, supporting its construction. It further asserts that the  
3 specification and the "summary of the invention" explicitly state that the chassis is for a  
4 general purpose computer, and not simply any frame or housing. Additionally, Rackable  
5 argues that the embodiments support its construction, and demonstrate a chassis built up  
6 with certain components, including a main board.

7 In response, Supermicro argues that Rackable's construction is too limiting. Even if  
8 it were a chassis for a computer, Supermicro notes that contrary to Rackable's  
9 construction, it should not be construed only as a frame or housing for a "general purpose  
10 computer" or server. It argues that Rackable is attempting to import an inappropriate  
11 limitation into the term.

12 The court indicated at the hearing that Rackable's reference to "computer" in its  
13 construction of the term was redundant, given the fact that the broader context of the claim  
14 is the computer itself. In response to the court's inquiries, Rackable indicated agreement  
15 with Supermicro's construction. Because claims must be construed in a manner that  
16 avoids such redundancies, the court adopts Supermicro's definition, and construes the term  
17 "a chassis comprising a front panel" as **a frame or housing including a front panel**. See  
18 *Unique Concepts Inc. v. Brown*, 939 F.2d 1558, 1562 (Fed. Cir. 1991) (merging one  
19 element into another is improper because it renders claim language redundant).

20 7. "the I/O connectors including the one or more data transmission ports  
21 and to all components requiring intermittent access provided for the  
computer"

22 This term appears in the '408 patent claims 1 and 9. Rackable asserts that "the I/O  
23 connectors including the one or more data transmission ports and to all components  
24 requiring intermittent access provided for the computer" means *"features that would  
25 normally be accessed from the rear of the main board in a standard computer, such as the  
26 I/O connectors, and accessible data drives if present."* Supermicro contends that "the I/O  
27 connectors including the one or more data transmission ports and to all components  
28 requiring intermittent access provided for the computer" is indefinite under 35 U.S.C. §

1 112(2) due to the word "intermittent," or alternatively means "*the i/o connectors including*  
2 *the one or more data transmission ports and all parts of the computer that require*  
3 *occasional access by the user or operator.*"

4 The essence of the dispute here again appears to concern the meaning of the word  
5 "intermittent," and also *which* parts of a computer require access.

6 As with disputed term four, "components requiring intermittent physical access,"  
7 Rackable appears to focus on the type and extent of I/O connectors described by the  
8 phrase; whereas, Supermicro focuses on the type of access. Rackable again argues that  
9 contrary to Supermicro, not each and every attachment to a computer requires  
10 "intermittent" physical access. It asserts that instead, as with term four, the "components  
11 requiring intermittent access" include only "physical input and output sockets that are found  
12 on the main board, and various data drives or storage devices if they are present."

13 Supermicro again, as with term four, argues that the phrase is indefinite, based on  
14 the term "intermittent."

15 For the reasons set forth above with respect to term four, the court concludes that  
16 "the I/O connectors including the one or more data transmission ports and to all  
17 components requiring intermittent access provided for the computer," is indefinite under 35  
18 U.S.C. § 112 based on its use of the term "intermittent."

19  
20 8. "providing access . . . to each component provided for the computer  
selected from the group consisting of"

21  
22 This term appears in the '408 patent claim 9. It is helpful to provide the full language  
of that claim, which recites:

23 A computer comprising:

24 a main board having I/O connectors including one or more data transmission  
25 ports mounted thereon; and  
26 a chassis comprising a front panel *providing access* to the I/O connectors  
including the one or more data transmission ports and access to *each*  
27 *component provided for the computer selected from the group consisting of*  
removable power supplies, removable drives, removable media drives, one or  
28 more plugs for external drives and devices, and ports for switches.

1 At the hearing, the court noted that in its claim construction brief, Supermicro had  
2 proposed a construction different from that proposed in the joint claim construction  
3 statement, without complying with the court's standing order. Supermicro advised the court  
4 that any change was inadvertent, and that it would rely upon the joint claim construction  
5 statement. Accordingly, that is the construction that the court now considers.

6 Rackable contends that "providing access . . . to each component provided for the  
7 computer selected from the group consisting of" means "*to each removable power supply,*  
8 *removable drive or removable media drive, if present.*" Supermicro asserts that "providing  
9 access . . . to each component provided for the computer selected from the group  
10 consisting of" means "*providing the user or operator of the computer with access to each of*  
11 *the following parts of the computer if present [see claim language for list of items].*"

12 According to Rackable, the issue concerns which of the items must each be located  
13 on the front, if present, as opposed to being potentially found on both the front and back of  
14 the computer. Rackable breaks down the subsequent claim language into three  
15 categories, including: (1) removable power supplies, removable drives, and removable  
16 media drives; (2) plugs for external drives and devices; and (3) ports for switches.  
17 According to Rackable, the claim language requires access only to the items included in  
18 category (1) – the removable power supplies, removable drives, and removable media  
19 drives to the extent that these removable components are present. In other words, it  
20 asserts that the members of the group for which access is required are only those referred  
21 to as "removable."

22 Rackable thus argues that the access described does not apply to the "plugs for  
23 external drives and devices, and ports for switches." It argues that only *one* plug for  
24 external drives and devices need be present on the front panel, and that redundant or  
25 duplicate plugs may indeed be located on a rear panel. Regarding the third component,  
26 the "ports for switches," Rackable implies that the "providing access" language does not  
27 apply to the ports. Instead, the ports are simply located on the front panel.

28

1 Supermicro, on the other hand, argues that "providing access" refers to *all*  
2 components – not just the removable ones. In other words, Supermicro asserts that the  
3 access language applies to all three groups that Rackable has listed, including the (1)  
4 removable power supplies, removable drives, and removable media drives; (2) plugs for  
5 external drives and devices; and (3) ports for switches. To the extent that any of the three  
6 groups of components is present, Supermicro argues that they must be located on the front  
7 of the computer.

8 Supermicro argues that Rackable's construction makes no sense because it is  
9 ignoring words that actually appear in the disputed claim language, and instead improperly  
10 imports other limitations into its construction. It further notes that there is a "linguistic  
11 dispute" among the parties regarding the phrase "group consisting of." Supermicro asserts  
12 that because all of the items following that phrase are listed in succession, and separated  
13 by commas, its reading is the more natural of the two. It argues that Rackable misreads  
14 the placement of the word "and."

15 The term "consisting of" means that the list of ingredients following the term is a  
16 closed list, such that additional ingredients cannot be present in the composition. Robert C.  
17 Karhl, Patent Claim Construction § 4.03[I], Transitional Words and Phrases (Aspen 2005  
18 Suppl.); *Georgia-Pacific Corp. v. United States Gypsum Co.*, 195 F.3d 1322, 1327 (Fed.  
19 Cir. 1999). The term, however, "does not necessarily mean that no other components can  
20 be used with the invention, but only that the list of ingredients of the same type cannot be  
21 augmented." *Id.*; *Norian Corp. v. Stryker Corp.*, 363 F.3d 1321, 1331-32 (Fed. Cir. 2004);  
22 *see also Mars, Inc. v. H.J. Heinz Co.*, 377 F.3d 1369, 1375-76 (Fed. Cir. 2004).

23 Rackable's proposed construction is contrary to the normal construction of a group  
24 following "consisting of" language. It attempts to limit the closed group inappropriately.  
25 There is nothing in the claim language or the specification that suggests that the plugs and  
26 ports, which follow the removable components, are not a part of "the group consisting of,"  
27 as Rackable implies.

28

1        Additionally, Supermicro's construction is a more grammatically correct interpretation  
2 of the disputed language, as endorsed by the Federal Circuit. *See SuperGuide Corp. v.*  
3 *DirecTV Enterprises, Inc.*, 358 F.3d 870, 885 (Fed. Cir. 2004). Where a phrase such as  
4 "group consisting of" "precedes a series of categories of criteria, and the patentee used the  
5 term "and" to separate the categories of criteria," this "connotes a conjunctive list." *Id.* In  
6 other words, applying the correct grammatical principle, the phrase "group consisting of"  
7 "modifies each member of the list, i.e., each category in the list." *Id.* (relying in part on  
8 William Strunk, Jr. & E.B. White, *The Elements of Style*).

9        Accordingly, the court adopts Supermicro's definition and construes "providing  
10 access . . . to each component provided for the computer selected from the group  
11 consisting of" as **providing the user or operator of the computer with access to each**  
12 **of the following parts of the computer if present: removable power supplies,**  
13 **removable drives, removable media drives, one or more plugs for external drives and**  
14 **devices, and ports for switches.** In other words, the court construes "group consisting of"  
15 to include all three categories that follow the phrase, including removable components,  
16 plugs, and ports. Rackable's attempt to limit the group to the removable components  
17 improperly narrows and modifies the claim language. *See Renishaw*, 158 F.3d at 1250  
18 (claim may not be construed to "add a narrowing modifier before an otherwise general term  
19 that stands unmodified in a claim").

20                    9.        "removable"

21        This term appears in the '408 patent claims 2 and 9.

22        Rackable asserts that "removable" means "*able to be removed without opening the*  
23 *chassis or removing the chassis from a rack.*" Supermicro asserts that "removable" means  
24 "*able to be removed without opening the chassis.*"

25        At the hearing, Rackable noted that it agreed with Supermicro's construction.  
26 Therefore, the court construes "removable" as **able to be removed without opening the**  
27 **chassis.**

1                   10.    "one or more plugs for external drives and devices, and ports for  
2                               switches"

3                   This term appears in the '408 patent claim 9. Rackable contends that "one or more  
4 plugs for external drives and devices, and ports for switches" means "*one or more plugs for*  
5 *drives and peripheral computer subsystems (such as disks, keyboards, monitors, mice,*  
6 *printers, scanners, tape drives, microphones, speakers, or cameras) that are external to the*  
7 *computer chassis, and one or more ports for switches.*" Supermicro asserts that "one or  
8 more plugs for external drives and devices, and ports for switches" means "*one or more*  
9 *connectors for drives or elements that are external to the computer, and openings that*  
10 *provide access to switches.*"

11                  Again, it is helpful to provide the full language of claim 9 of the '408 patent, which  
12 recites:

13                  A computer comprising:

14                       a main board having I/O connectors including one or more data transmission  
15                       ports mounted thereon; and  
16                       a chassis comprising a front panel providing access to the I/O connectors  
17                       including the one or more data transmission ports and access to each  
                          component provided for the computer selected from the group consisting of  
                          removable power supplies, removable drives, removable media drives, *one or*  
                          *more plugs for external drives and devices, and ports for switches.*

18                  The essence of this dispute is really how "device" should be defined. It is clear to  
19 the court from the parties' arguments in their papers and at the hearing that there really is  
20 no dispute regarding the definition of "plug" or "drive;" that the drives and devices are  
21 "external" to the computer; and that "ports for switches" are openings. Accordingly, the  
22 court declines to define those terms, which are undisputed.

23                  As for the definition of "device," Supermicro advocates a broad definition of the term,  
24 contending that "device" is synonymous with "element," and should be construed as a  
25 generic term referring to any item that is hooked up to a computer. Rackable, on the other  
26 hand, argues for a narrower definition, one that limits a "device" to a "peripheral computer  
27 subsystem" and provides examples of "peripheral computer subsystem[s]."  
28

1 Rackable argues that Supermicro improperly attempts to broaden the definition of  
2 the term "device." Rackable cites to the '366 patent specification, including figure 1, in  
3 support of its argument that "referred-to 'devices'" include "peripheral computer devices,  
4 such as keyboards, monitors, mice, printers, scanners, tape drives, microphones, speakers  
5 or cameras." See '366 patent at 6:11-18. Rackable also cites to a dictionary definition for  
6 "device." See Ostrapuk Decl., Exh. DD.

7 Supermicro counters that Rackable's narrow definition of the word "device," limiting  
8 it to a "peripheral computer subsystem" is contrary to the specification. It asserts that the  
9 patent application intentionally chose to use the generic term "device," as opposed to the  
10 more specific "computer subsystem" or "peripheral device." Supermicro also cites to a  
11 technical dictionary definition for the term "device."

12 It is not necessary for the court to resort to extrinsic evidence to construe the term  
13 "device" because the specification provides meaning for the term. The related '366 patent  
14 abstract clarifies that Supermicro's broader construction of "device" is more appropriate.  
15 That abstract explains that "[b]y placement of access space to all *elements* which require  
16 periodic attention at the front of each computer, the need for significant space at the rear of  
17 a computer is eliminated." '366 patent abstract. Later in the specification's "summary of  
18 invention," the specification utilizes a similar broad term for "devices" – "attachments." '408  
19 patent at 4:8. The specification also provides examples of such "devices," but the list is not  
20 exhaustive. In the detailed description of the embodiments, the specification provides that  
21 "a number of devices may be optionally used in this port" and then continues with a  
22 discussion of the possible types of "drives" (not to be confused with "devices"). '408 patent  
23 at 6:7-13. The specification then suggests that devices may include "USB/external SCSI or  
24 parallel port devices or other auxiliary data drives configured for plug-in use." *Id.* at 6:13-  
25 19. However, nowhere does the specification define "devices" as narrowly as Rackable  
26 would have the court construe it.

27 Because the court finds that the specification supports a broader construction of  
28 "device," and also finds that "attachment" is clearer than "element," as advocated by



1 Supermicro, the court construes "one or more plugs for external drives and devices, and  
2 ports for switches" as **one or more plugs for external drives and attachments, and**  
3 **ports for switches.**

#### 4 **CONCLUSION**

5 In accordance with the foregoing, the court construes the disputed terms as follows:

- 6 1. "Rack" means **a frame or cabinet for holding multiple computer chassis.**
- 7 2. "Computer" means **a computer that functions as a server.**
- 8 3. "Front" means **a panel designed to face forward when placed in a rack as**  
9 **applies to the '366 patent only. "Front" is indefinite under 35 U.S.C. § 112 as**  
10 **concerns the '408 patent.**
- 11 4. "Components requiring intermittent physical access" is indefinite under 35  
12 U.S.C. § 112.
- 13 5. "Main board" means **a main circuit board that contains the primary**  
14 **components of a computer.**
- 15 6. "A chassis comprising a front panel" means **a frame or housing including a**  
16 **front panel.**
- 17 7. "The I/O connectors including the one or more data transmission ports and to  
18 all components requiring intermittent access provided for the computer," is  
19 indefinite under 35 U.S.C. § 112.
- 20 8. "Providing access . . . to each component provided for the computer selected  
21 from the group consisting of" means **providing the user or operator of the**  
22 **computer with access to each of the following parts of the computer if**  
23 **present: removable power supplies, removable drives, removable**  
24 **media drives, one or more plugs for external drives and devices, and**  
25 **ports for switches.**
- 26 9. "Removable" means **able to be removed without opening the chassis.**

1           10.    "One or more plugs for external drives and devices, and ports for switches"  
2                   means **one or more plugs for external drives and attachments, and ports**  
3                   **for switches.**

4           A case management conference will take place on Thursday, November 16, 2006, at  
5 2:30 p.m. Pursuant to the court's Patent Standing Order, the parties are ordered to file a  
6 joint case management statement **seven calendar days prior to the conference**, which  
7 must address the following topics set forth in that order.

8  
9 Dated: October 27, 2006

10 **IT IS SO ORDERED.**

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PHYLLIS J. HAMILTON  
United States District Judge